WA-24-3010

MEMORANDUM

September 11, 1975

To: Gerry Calkins

From: Shirley Prescott

Subject: Naselle Youth Camp STP Efficiency Study

Scott Jeane and I conducted a routine efficiency study on the above plant on July 22, 1975.

Attached is the standard survey report form showing plant information and results of lab and field tests.

This is a small activated sludge plant with extended aeration manufactured under the name "Air-O-Flow". It serves from 160-200 people.

At the time of the survey the plant was operating within secondary treatment levels showing a reduction of 90% BOD (6.93 #/day) and a reduction of 92% TSS (6.67 #/day). Median pH values ran 6.5. This slightly low value was attributed to an overload of chlorine bleach in the laundry water.

Good disinfection was noted for all coliform samples collected. Fecal coliform on all samples was 10 and chlorine residuals varied from 0.3 ppm in 15 seconds to 1.0 in 3 minutes.

Nutrient analysis of the composite effluent sample revealed the following levels:

	ppm	lbs/day
NO ₂ N	.80	.21
NO ₂ N	.02	.005
NH ² N	8.0	2.14
T. Kjeldahl	8.2	2.19
OPO, P	3.0	.8
T-070 ₄	4.4	1.17

Flow readings taken at a 60° V-notch weir indicated the flow meter was reading 74% low. It would appear that at least part of the problem is the flow float bulb is rubbing against the side of the still well. Observed flows ranged from 0.011 to 0.068 MGD and averaged 0.032 MGD.

The boys at the camp do their own laundry which has resulted in a foaming problem and a low pH both of which appear to be a result of over zealous

use of washing soap and chlorine bleach. The foam created is hosed each morning into Peach Creek.

The chlorination meter is not operable.

There is an alarm system and light which is operable

SP:ee

STP Survey Report Form

Efficiency Study

Naselle City Youth Camp F	Plant Type	Pop. Served	160-200 Design	
			Capacit Intermittent	
			Personnel Prescott & C	
Comp. Sampling Freq	quency 30 min	Sampling Alec	quot 210 ml	
Weather Conditions	(24 hr) <u>dry</u>	Are facilitie	es provided for comp	lete by-
pass of raw sewage?	Yes	_No/Frequency of	bypass	
			orinated? Lt can be Yes	
Was DOE Notified?	Dischar	ge - Intermittent_	Continuous_	
	Plant	Operation		
Total flow	032 MGD	How measured	60° V-notch weir	rit-diministration participas deputations
Maximum flow	068 MGD	Time of Max		
Minimum flow .	011 MGD	_ Time of Min		- minuster
Pre Cl ₂	#/day	Post Cl ₂		#/day
	Fleld	d Results		
	Influ	ient	Effluent	
Determinations			Effluent Max. Min. Mean	n Median
Temp °C	Max. Min.	Mean Median	Max. Min. Mean	19
Temp °C pH (Units) Conductivity	Max. Min. 22 19 7.8 6.8	Mean Median 20.2 7.4	Max. Min. Mean	19 6.5
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable	Max. Min. 22 19 7,8 6.8 825 235	Mean Median 20.2 7.4 405	Max. Min. Mean 19 18 6.8 6.1 390 375	19 6.5 382
Temp °C pH (Units) Conductivity (µmhos/cm²)	Max. Min. 22 19 7.8 6.8	Mean Median 20.2 7.4	Max. Min. Mean	19 6.5 382
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable	Max. Min. 22 19 7,8 6.8 825 235 18.0 4.5	Mean Median 20.2 7.4 405	Max. Min. Mean 19 18 6.8 6.1 390 375 trace trace trace	19 6.5 382
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable	Max. Min. 22 19 7,8 6.8 825 235 18.0 4.5	Mean Median 20.2 7.4 405	Max. Min. Mean 19 18 6.8 6.1 390 375 trace trace trace	19 6.5 382
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable	Max. Min. 22 19 7.8 6.8 825 235 18.0 4.5 Laboratory Res	Mean Median 20.2 7.4 405 14.1) sults on Composite	Max. Min. Mean 19 18 6.8 6.1 390 375 trace trace trace	19 6.5 382 trace
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable Solids (mls/l) Jaboratory No. 5-Day BOD ppm	Max. Min. 22 19 7.8 6.8 825 235 18.0 4.5 Laboratory Res Influent 75-3150 260	Mean Median 20.2 7.4 405 14.1 sults on Composite Effluent 3151 26.0	Max. Min. Mean 19 18 6.8 6.1 390 375 trace trace trace	19 6.5 382 trace
Temp °C pH (Units) Conductivity (umhos/cm²) Settleable Solids (mls/l) Laboratory No. 5-Day BOD ppm LOD ppm LOD ppm 2.S. ppm	Max. Min. 22 19 7.8 6.8 825 235 18.0 4.5 Laboratory Res Influent 75-3150	Mean Median 20.2 7.4 405 14.1 sults on Composite Effluent 3151 26.0 56.0 201	Max. Min. Mean 19 18 6.8 6.1 390 375 trace trace traces	19 6.5 382 trace
Temp °C pH (Units) Conductivity (umhos/cm²) Settleable Solids (mls/l) Laboratory No. 5-Day BOD ppm COD ppm	Max. Min. 22	Mean Median 20.2 7.4 405 14.1 sults on Composite Effluent 3151 26.0 56.0 201 147	19 18 6.8 6.1 390 375 trace trace trace = 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	19 6.5 382 trace
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable Solids (mls/l) Jaboratory No. 5-Day BOD ppm JOD ppm JOD ppm J.S. ppm J.S.S. ppm J.V.S.S. ppm J.V.S.S. ppm	Max. Min. 22 19 7.8 6.8 825 235 18.0 4.5 Laboratory Res Influent 75-3150 260 520 653 286 315 88	Mean Median 20.2 7.4 405 14.1 sults on Composite Effluent 3151 26.0 56.0 201 147 25 12.0	Max. Min. Mean 19 18 6.8 6.1 390 375 trace trace traces	19 6.5 382 trace
Temp °C pH (Units) Conductivity (µmhos/cm²) Settleable Solids (mls/l) Jaboratory No. J-Day BOD ppm JOD ppm JOD ppm J.S. ppm J.S. ppm J.S.s. ppm J.S.s. ppm	Max. Min. 22 19 7.8 6.8 825 235 18.0 4.5 Laboratory Res Influent 75-3150 260 520 653 286 315	Mean Median 20.2 7.4 405 14.1 sults on Composite Effluent 3151 26.0 56.0 201 147 25	19 18 6.8 6.1 390 375 trace trace trace = 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	19 6.5 382 trace

Laboratory Bacteriological Results

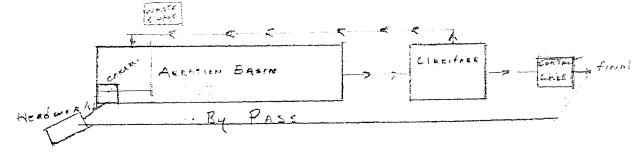
Lab No.	Samplino Time	g Co Total	lonies/100 m Fecal		Cl ₂ Residual		
		Coliform	Coliform	Strep	15 Sec	3 Min.	
3152	0930	<160 Est.	10		0.4	0.75	
3153	1215	<180 Est.	10		0.4	1.0	
3154	1445	< 40 Est.	10		0.3	0.5	
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Additional Laboratory Results

	ppm	#/day	
NO3-N ppm -	. 80	.21	
NO2-N ppm -	.02	.005	Control of the contro
NH3-N ppm -	8,0	2.14	
T. Kjeldahl-N ppm -	8.2	2.19	
0-P04-P ppm -	3.0	.80	·
T-P04-P ppm -	4.4	1.17	Language Control

Operator's Name Mr. Hillis Phone No. 484-3223

Furnish a flow diagram with sequence and relative size and points of chlorination.



Type of Collection System

Combined _x Separate Both	Estimate flow contributed by surface or ground water (infiltration
	MGD
Plant Loading In	nformation
Annual average daily flow rate(mgd)	Peak flow rate(mgd)
Dry	Dry
Wet	Wet
COMMENTS:	

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

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ORIGINAL TO:

DATA SUMMARY

ne Stf	_				Со	llected By_ <i>6</i>	.S. SEANE II
	-				Go	al, Pro./Obj.	
3150	51	52	53	54	55		STORET
INF	eff	1	1	5:30	POACH CR. 1445		
7.9	7.0						00403
140.	12.						00070
560.	350.						00095
520.	56.						00340
260.	26.						00310
-	-	160	180	40	2500		31504
_		410	410	Kio	80 80		31616
<u> </u>	.80					·	00620
	.02						00615
	8.0						00610
	8.2						00625
	3.0						00671
	4.4						00665
653	201						00500
286	147						
315	25						00530
88	12						
PM un1	888 0+	herric	0.000	ifica	ND 4	G INone Patrice	todii
	3150 INF 7.9 140. 520. 260. 	3150 51 INF EFF 7.9 7.0 140. 12. 560. 350. 520. 56. 260. 2680 .02 .8.0 .02 .8.0 .8.2 .3.0 .4.4 .653 201 .286 147 .315 25 .88 12	3150 51 52 INF EFF 0930 7.9 7.0 140. 12. 560. 350. 520. 56. 260. 26. /60 /160 .80 .02 8.0 8.2 3.0 4.4 653 201 286 147 315 25 88 12	3150 51 52 53 INF EFF O130 1215 7.9 7.0 140. 12. 560. 350. 520. 56. 260. 26. 160 410 .80 .02 8.0 8.2 3.0 4.4 653 201 286 147 315 25 88 12	3150 51 52 53 54 INF CFF 0130 1215 2:30 7.9 7.0 140. 12. 560. 350. 520. 56. 210. 26.	3150 51 52 53 54 55 INF CFF 0130 1215 2:30 1445 7.9 7.0 140. 12. 560. 350. 520. 56. 260. 26. /60 /80 40 2500 .80 .02 8.0 8.2 3.0 4.4 653 201 286 147 315 25 88 12	Goal, Pro./Obj. 3150 51 52 53 54 55 INF CFF OFF CFF CFF CFF CFF CFF CFF CFF CF

Convert those marked with a * to PPB (PPM X 10 3) prior to entry into STORET